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Federal Communications Commission
Office of the Secretary

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result, additional requests for use of line 22 for data services can be expected in the future. In the interest of avoiding degradation of picture content on home receivers, the Commission should limit any further impingement on the active video area beyond line 22. This can be achieved through more efficient use of the available resource of the vertical blanking interval ("VBI") or through shared use of line 22. In any case, line 22 should be available, if at all, to any party, but at the discretion of the TV licensee. We take no position as to whether the Commission should provide regulatory guidelines in this area, as opposed to encouraging marketplace consensus, compromise and voluntary compliance. However, Commission action is warranted to guarantee that lines higher than line 22 remain exclusively available for visual information. In any case, the broadcast licensee, whose signal carries the data signal, must retain complete control of its NTSC transmission.

II. Background.

NAB has adopted a now well-established position on line 22 usage.⁵ NAB believes that line 22 use should be limited since it falls within the active video area. Trends in display technology and receiver design practice indicate that line 22 likely will be increasingly more viewable as time goes on. Currently, on most receivers, line 22 is hidden from view in the over-scan area of the picture. But that factor is changing rapidly.

⁵ Id.

Current line 22 users may not efficiently use the available line 22 resource, and requests for line 22 may likely exceed availability in the future. Consequently, we fear that lines 23 and higher may be requested to meet requirements that line 22 cannot -- developments that would increasingly impinge on the active video area. In our view, the Commission should establish hard limits that protect other lines in the active video area from requests for non-video uses. Several important assumptions clearly are applicable to the present request:

1) NTSC standard television transmission consists of 262 1/2 lines every 1/60th of a second, in a 2:1 interlaced scanning format. The first 21 lines are part of the vertical blanking interval, used to synchronize picture displays. Line 22 is the first line of the active video area. This line is not normally viewable on the receiver display screen because most receivers employ over-scanning. However, there is a clear trend toward reducing the size of the over-scan area in video displays. This trend is due to refinements of conventional receiver design, incorporation of new display technologies not requiring over-scan and the increasing use in institutional settings of underscanned displays to accommodate both computer-generated images and broadcast television signals. This trend, therefore, increases the likelihood that active lines now in the over-scan area may be seen by the average viewer in the future.

2) Potential users of line 22 and requests for access to line 22 are likely to increase, based on historic trends.

3) Users of line 22 (and other VBI services) may not make the most efficient use of the available line time.

III. Increasing the efficiency of line time for "special signals" would be beneficial, but it is paramount to retain the maximum active video area for the visual signal.

Given the situation described above, and extrapolating into the future, at least three possibilities exist for accommodating an increasing number of "special signal" requests on line 22:

1) Data services can be designed to be more resource-efficient by using a minimum amount of line time, including the possible partitioning of line 22 into several "time slots";

2) Data services that do not require updating every video field period may be repeated less frequently, suggesting the possibility of a sharing of line 22 on a sequential field basis; and

3) Data placed on line 22 during program production may be shifted to a VBI line immediately prior to broadcast transmission, as has been suggested by

the National Broadcasting Co. Inc. ("NBC").⁶

These three alternatives are worthy approaches for study since the Commission and industry would maximize use of a limited resource -- line 22. However, it is unclear at present, whether a line 22 resource-maximizing effort should be pursued as an industry-only effort, or whether the Commission should take on a mediating and/or regulatory role in this effort. However, the scope of any such investigation should be widened, in our opinion, to also include services that now reside in -- or could reside in -- the vertical blanking interval. This is also a technically inefficient resource which could be made more efficient by a consensus of the key industry components.

Any accommodation of additional, competing uses by employing lines 23, 24 and higher is a much less desirable alternative, as it eventually would cause visible picture degradation. We encourage the industry and the Commission to limit to line 22 the area allocated for active video that may be used for other purposes. To do otherwise would invite requests for higher line usage because manufacturers of competing systems would surely prefer being allocated their own line instead of a more complex sharing arrangement.

⁶ See Comments of NBC, DA-1060, filed September 22, 1989, and Reply Comments of NBC, DA-1060, filed November 2, 1989.

IV. Responsibility for control of the broadcast signal rests with the licensee.

Airtrax has also asked the Commission to set standards that would "prohibit users of Line 22 from "overwriting" other users without authority."⁷ The Commission repeatedly has ruled that expanded applications of the television signal space is within the ultimate control of the broadcast licensee.⁸ Previous filings by NAB, MSTV and NBC have also supported this position.⁹ We find nothing in the Airtrax petition to suggest that a change in that policy is warranted. Control over the insertion of signals, in addition to the visual signal in the video signal structure, must be retained by the broadcast licensee. We agree with the Commission's observation that "licensees are required to retain ultimate control over the content of their transmissions, including radiated VBI signals."¹⁰

V. Conclusion.

More efficient use of the line 22 resource is a desirable goal. However, it is unclear whether attainment of that goal requires involvement by the Commission. In any event, the Commission should continue to ensure that there be no further impingement on the active video area beyond line 22.

⁷ See note 3, supra, at page 7.

⁸ See Letter to Grier C. Raclin from Roy Stewart, Mass Media Bureau Chief (November 22, 1989) and Letter to Kevin McMahon from Alex D. Felker, Mass Media Bureau Chief (October 24, 1988). See also Letter to Burton Greenberg from James C. McKinney, Mass Media Bureau Chief (July 18, 1985).

⁹ See Comments of MST and NAB (MMP-1 & MMP-2), filed July 5, 1985, and Comments of NBC (MMP-1 & MMP-2), filed July 5, 1985.

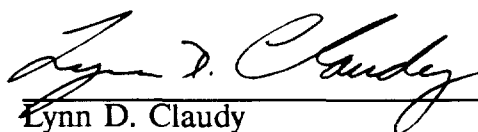
¹⁰ Report and Order, BC Docket No. 78-308, 46 Fed. Reg. 40024, published August 6, 1981.

Respectfully submitted,

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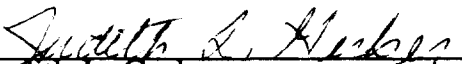
Of Counsel

February 14, 1991

CERTIFICATE OF SERVICE

I, Judith L. Gerber, do hereby certify that a true and correct copy of the foregoing "Comments of the National Association of Broadcasters" was sent, via first class mail, on this date, February 14, 1991, to the following:

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